

National TRU Waste Management Plan

Quarterly Supplement
Summary of Fiscal Year 2001 Performance and
Fiscal Year 2002 Forecasts

October 2001



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Introduction

The U.S. Department of Energy (DOE) is committed to honoring the federal government's obligation to clean up "legacy" waste at sites across the nation that supported nuclear research and development, and the production and testing of nuclear weapons. It is the objective of DOE Order 435.1, "Radioactive Waste Management," to ensure that all DOE radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment. Per this Order, DOE is responsible for developing, implementing, and maintaining integrated complex-wide radioactive waste management program plans. At the DOE complex-wide level, each plan describes the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat, and dispose of waste. In addition, the DOE is responsible for establishing and maintaining a system to compile waste generation projection data and other information concerning waste management facilities, operations, and activities. The issuance of the National Transuranic (TRU) Waste Management Plan (NTWMP), Revision 2, dated December 2000 fulfilled this obligation.

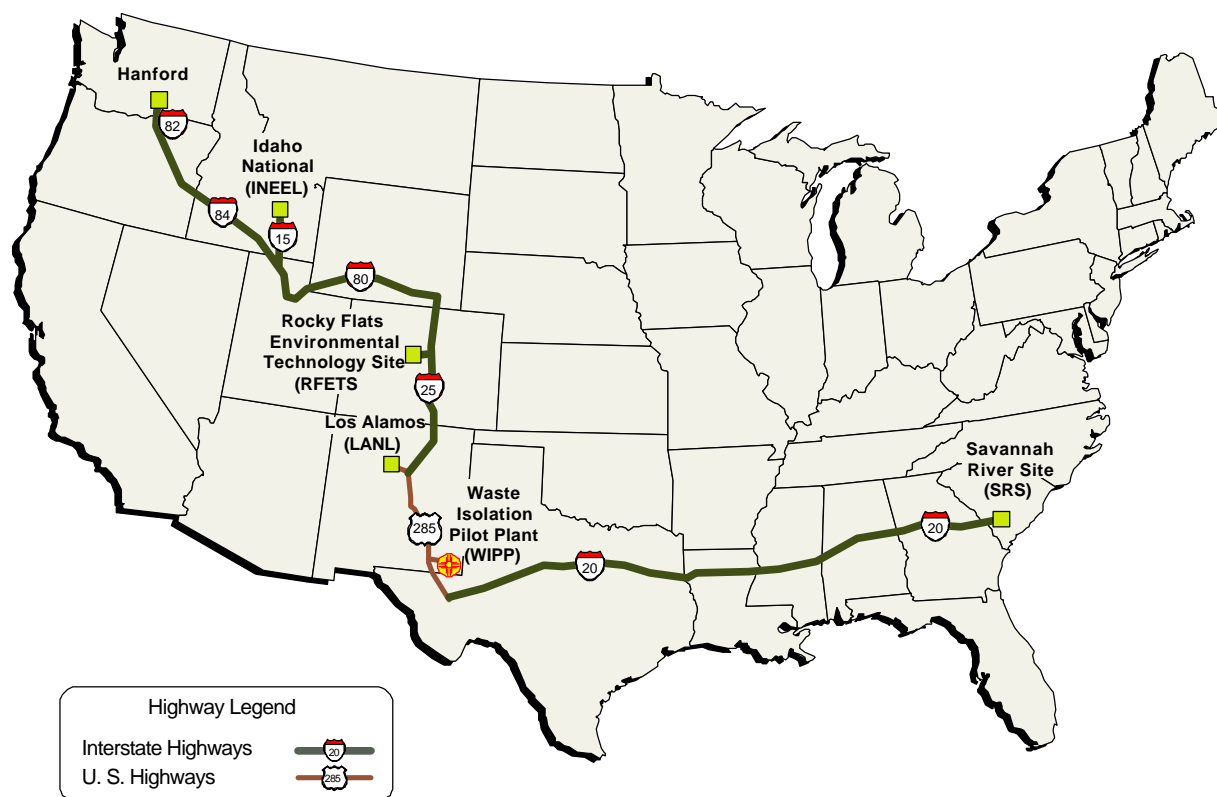
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This Quarterly Supplement for the Fourth Quarter of Fiscal Year 2001 (July - September 2001) documents site and system-wide performance as of September 30, 2001 through Key Performance Indicators (KPIs) developed in the NTWMP. These KPIs are sets of tailored metrics that are used to report current status, monitor the effects of changes, determine progress, and provide feedback for continuous system improvement. The DOE uses the KPIs to measure the progress and success of the many activities within the national TRU system that contribute toward the ultimate goal of TRU waste cleanup and disposal. The Quarterly Supplements are issued every three months and document TRU Waste System performance during the past quarter and forecast the next quarter's activities compared to these KPIs.

In this Quarterly Supplement, two KPIs, the number of shipments made on a monthly basis and the monthly volume of waste received, are tracked. These numbers are shown as plots of actual performance against the baseline schedules provided for inclusion in the NTWMP by each site's TRU program and TRU waste managers. These KPIs reflect the periodic updates or three month forecasts made to these schedules on a quarterly basis. For the annual update of the NTWMP, two additional KPIs, one on site waste characterization costs and one on the cycle time to perform audits, will be added to the two KPIs currently tracked in the Quarterly Supplements.

The Quarterly Supplement also evaluates the impacts of system schedule changes based on discussions and negotiations with the TRU waste sites during the preparation of the NTWMP. The NTWMP is revised annually to reflect the new schedules provided by each site's TRU program and TRU waste managers. Updated KPIs are developed based on the schedules. Variances from the previous year's schedules that have an impact on out-year system capabilities are addressed in the NTWMP.



KPIs are also used by the National Transuranic Waste Complex Corporate Board (the Board) to measure and monitor performance. The Board was developed in May 2001 to provide consensus, strategic, tactical, and programmatic recommendations, and facilitate the integration and business-like operation of the National TRU Waste Program. Membership consists of senior DOE and contractor representatives from those sites that are actively shipping waste to the WIPP. The vision of the Board is to achieve an end-state of cost-effectiveness and safety by using best management business practices, such as standardization, economies of scale at the national level, operational efficiencies (e.g., modular/mobile systems), and national authorization basis requirements for the operational safety of the modular/mobile systems (i.e., documentation transferable from site to site). KPIs used by the Board include the four KPIs described previously for the NTWMP and Quarterly Supplement plus KPIs for TRUPACT-II utilization and the resolution of corrective action reports and non-conformance reports resulting from the audit process.

The above figure shows the corridors (or routes) over which the waste is currently transported to WIPP. These corridors were "opened" prior to the sites being allowed to ship. The opening of the shipping corridor includes informing the general public and the elected officials of the associated risk and effectively responding to their concerns. State and tribal governments require emergency preparedness training, training exercises, and hospital-based training to ensure that any accident that may occur can be managed locally.

A corridor is considered open when, prior to the announced generator site shipping date, requests for training and exercises have been completed to the satisfaction of the state or tribal government. Corridors from the Hanford Site, the Idaho National Engineering and Environmental Laboratory, the Rocky Flats Environmental Technology Site, the Los Alamos National Laboratory, and the Savannah River Site to WIPP are open.

Key Performance Indicators

This Quarterly Supplement documents site and system-wide performance through Key Performance Indicators (KPIs) developed in the NTWMP.

Performance measurement is mandated by the Government Performance and Results Act of 1993. In addition, DOE Order 435.1, "*Radioactive Waste Management*," requires that the goals of all DOE waste management programs be measurable to support periodic assessment of the program's progress. Therefore, the KPIs developed and tracked within the DOE TRU waste system support specific program completion or site closure dates, such as those listed in the Status Report on *Paths to Closure* (DOE/EM-0526, March 2000).

To provide this measurement capability, the DOE uses Performance Indicators (PIs). In general, the DOE derives benefits from the PIs such as:

- C Accountability for Federal employees and contractors regarding stewardship of monetary resources by showing progress toward national goals.
- C Validation of programs and their costs. In an era of shrinking federal budgets, demonstration of good performance and sustainable public impacts with positive results help validate programs and their costs.
- C Trending to determine the need to implement contingency planning. Management of products and services can be improved by analyzing trends and focusing resources.
- C Improving communications. Collecting and processing accurate information for PIs facilitates communications regarding mission-critical activities.

Within the DOE TRU waste system, specific KPIs serve four basic functions:

- C Provide measurable results so the National TRU Program can demonstrate progress towards goals and objectives.
- C Determine the effectiveness of each element of the program.
- C Characterize the performance of the DOE TRU waste system.
- C Allow assessment of program successes so that resources can be reallocated to projects where they have the most positive impact to system performance.

Each site that has activity planned in FY2001 has KPIs presented on:

- C Volume shipped (Actual versus Annual Planned) (cumulative).
- C Number of shipments (Actual versus Annual Planned) (cumulative).

In addition to the Actual Volume and Shipments, and the Planned Volume and Shipments presented for each site, forecast values for volumes and shipments are updated quarterly to show current planning. The forecast values for the first quarter of FY2002 are depicted in red on the Performance Indicator figures for each site. These forecast values have been obtained from the quarterly forecasts and annual site signups. These depict the planned shipments and volumes that will be used in Revision 3 of the NTWMP. After completion of their respective certification audits, two new sites, Argonne National Laboratory-East and the Nevada Test Site, plan shipments as early as FY2002. Future quarterly supplements will show their planned and actual shipments and volumes.

Argonne National Laboratory - East

Background

The first shipment from Argonne National Laboratory - East (ANL-E) was anticipated to be in December of 2001; however, due to delays in the performance of the certification audit which is currently scheduled to be completed in February 2002, the earliest possible shipment date is during the third quarter of FY2002. There were no FY2001 Performance Indicators and no shipments are forecast for the first two quarters of FY2002.

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Hanford Reservation

Background

The first shipment from the Hanford Reservation (Hanford) was made on July 12, 2000 and was received at WIPP on July 14, 2000. Through September 30, 2001, a total of ten shipments from Hanford representing 80.4 m³ have been received.

Fourth Quarter Performance

During the fourth quarter of FY2001, three shipments with a volume of 26.5 m³ were made and disposed. The projection for this period was one shipment with a volume of 6.8 m³.

Current Fiscal Year

As of September 30, 2001, during FY2001, Hanford has made seven shipments with a total volume of 61.7 m³. In comparison to initial planning for FY2001, Hanford planned to make five shipments consisting of 34.0 m³ during this same time period.

FY2001 Performance Summary

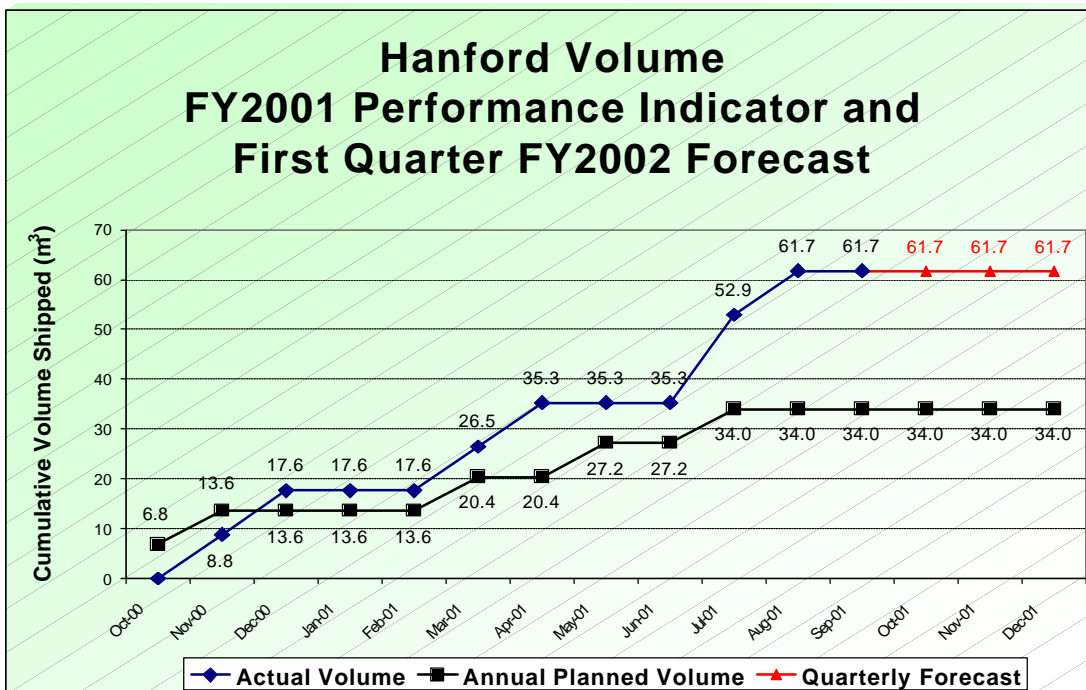
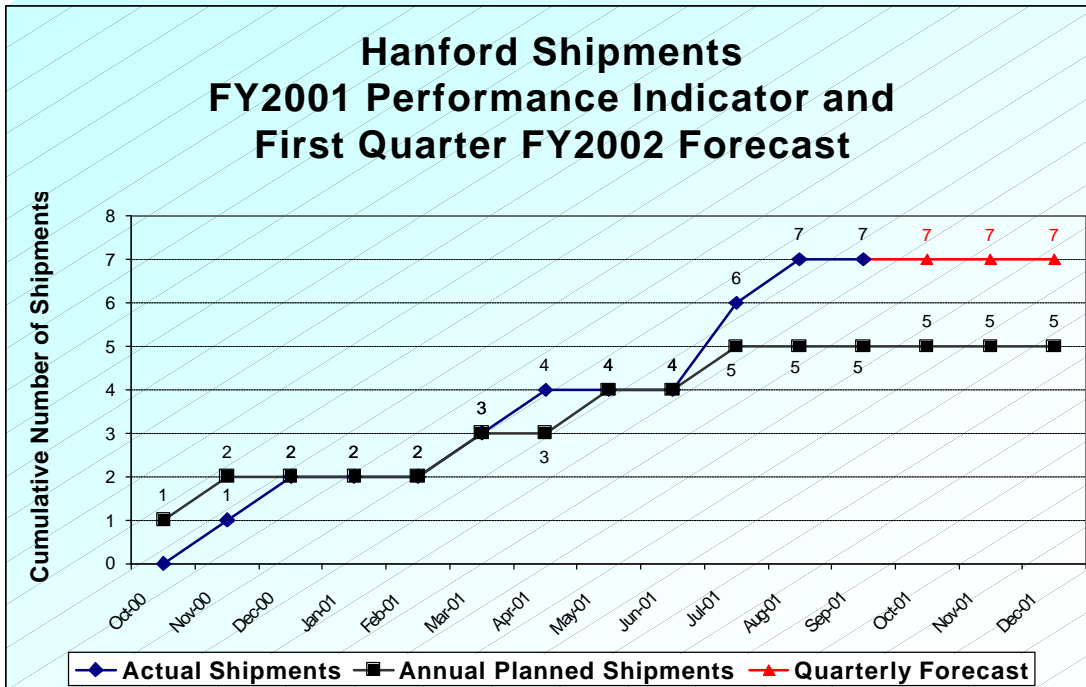
Hanford exceeded their projected shipment numbers and their projected waste volumes for FY2001 by 40 percent and 80 percent, respectively.

FY2001 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- ① Hanford Shipment FY2001 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2001.
- ① Hanford Volume FY2001 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2001.

Forecast values for the first quarter of FY2002 are shown in red on the figures.



Idaho National Engineering and Environmental Laboratory

Background

The first shipment from the Idaho National Engineering and Environmental Laboratory (INEEL) was made on April 27, 1999 and was received at WIPP on April 28, 1999. Through September 30, 2001, a total of 137 shipments from INEEL representing 819.0 m³ have been received.

Fourth Quarter Performance

During the fourth quarter of FY2001, 40 shipments with a volume of 224.9 m³ were made. The projections for this period were 54 shipments with a total volume of 368.3 m³.

Current Fiscal Year

As of September 30, 2001, during FY2001, INEEL has made 121 shipments consisting of 697.0 m³. In comparison to initial planning for FY2001, INEEL planned to make 170 shipments consisting of 1159.4 m³ during this same time period.

Performance Summary

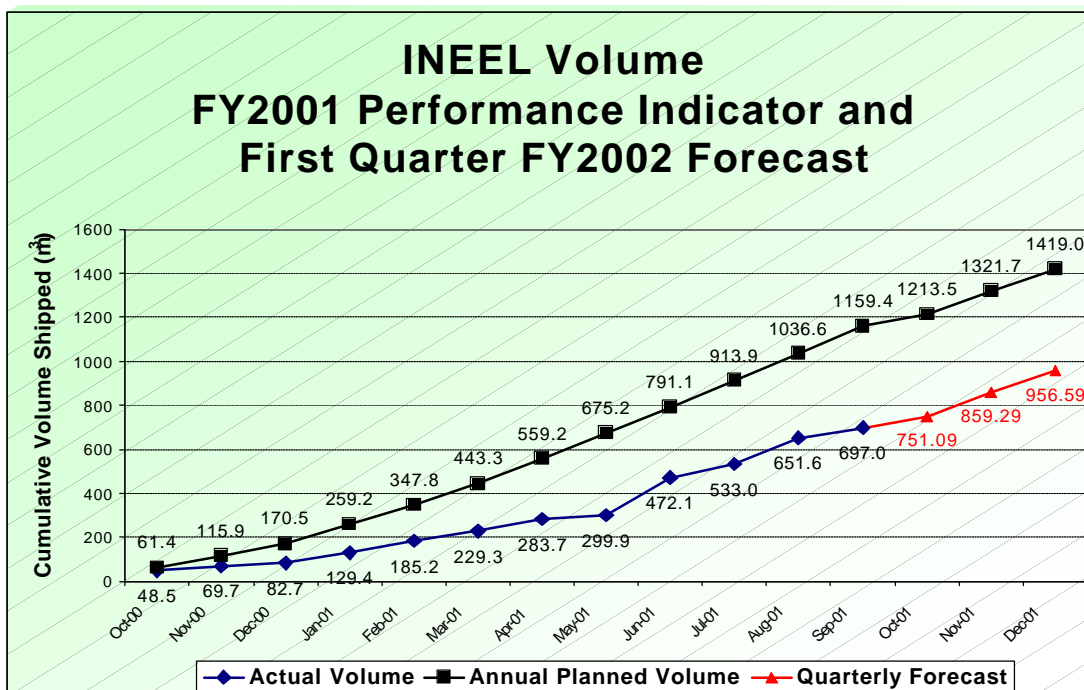
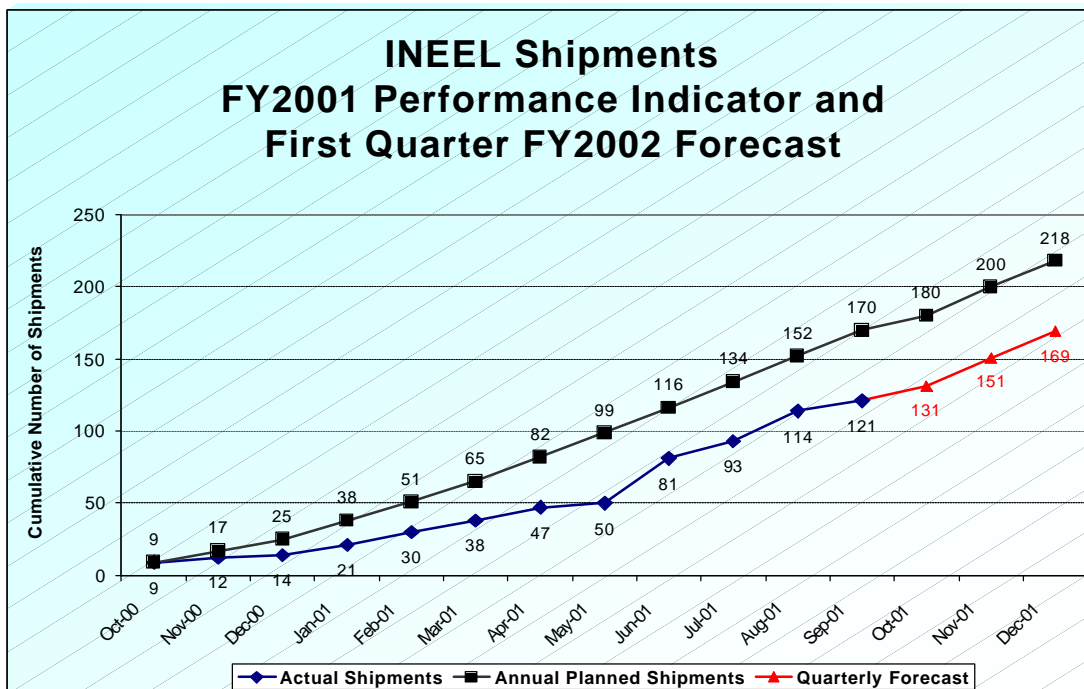
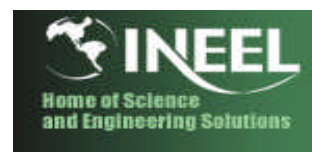
During FY2001, INEEL realized 71 percent of their shipment goal and 60 percent of their TRU waste volume goal.

FY2001 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- C INEEL Shipment FY2001 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2001.
- C INEEL Volume FY2001 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2001.

Forecast values for the first quarter of FY2002 are shown in red on the figures.



Background

The first shipment from the Los Alamos National Laboratory (LANL) was made on March 25, 1999 and was received at WIPP on March 26, 1999. Through September 30, 2001, a total of 24 shipments from LANL representing 263.4 m³ have been received.

Fourth Quarter Performance

During the fourth quarter of FY2001, two shipments with a total volume of 20.9 m³ were made and disposed. The projection for this period was six shipments with a total volume of 51.8 m³.

Current Fiscal Year

As of September 30, 2001, during FY2001, LANL has made seven shipments with a total volume of 73.6 m³. In comparison to original projections for FY2001, LANL planned to make 19 shipments consisting of 164.0 m³ during this same time period.

Performance Summary

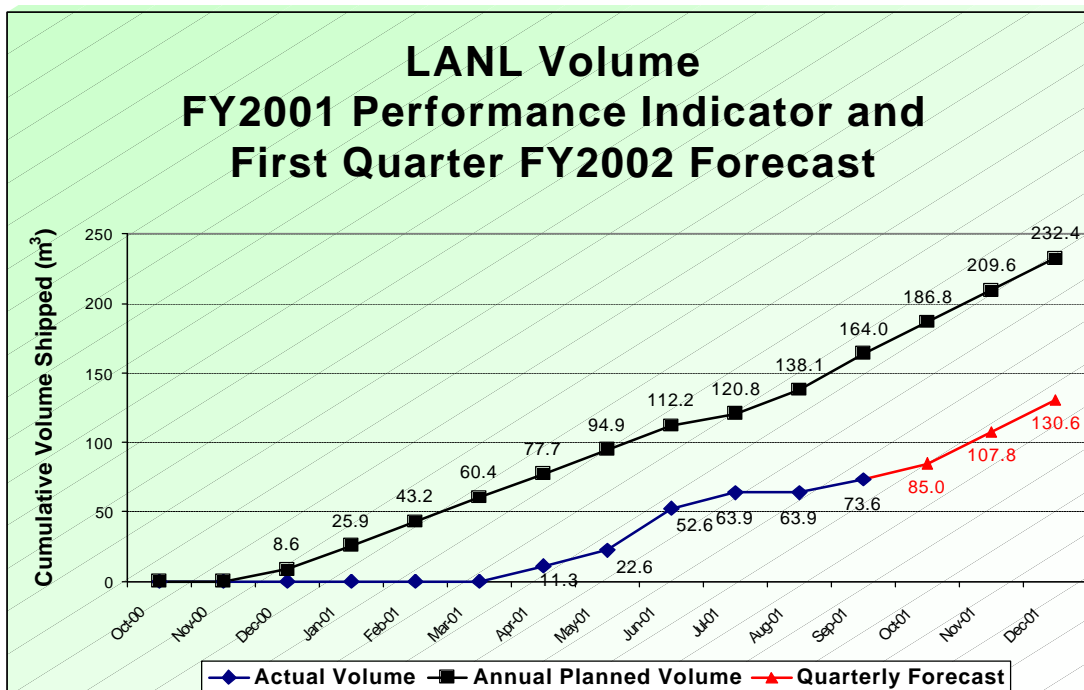
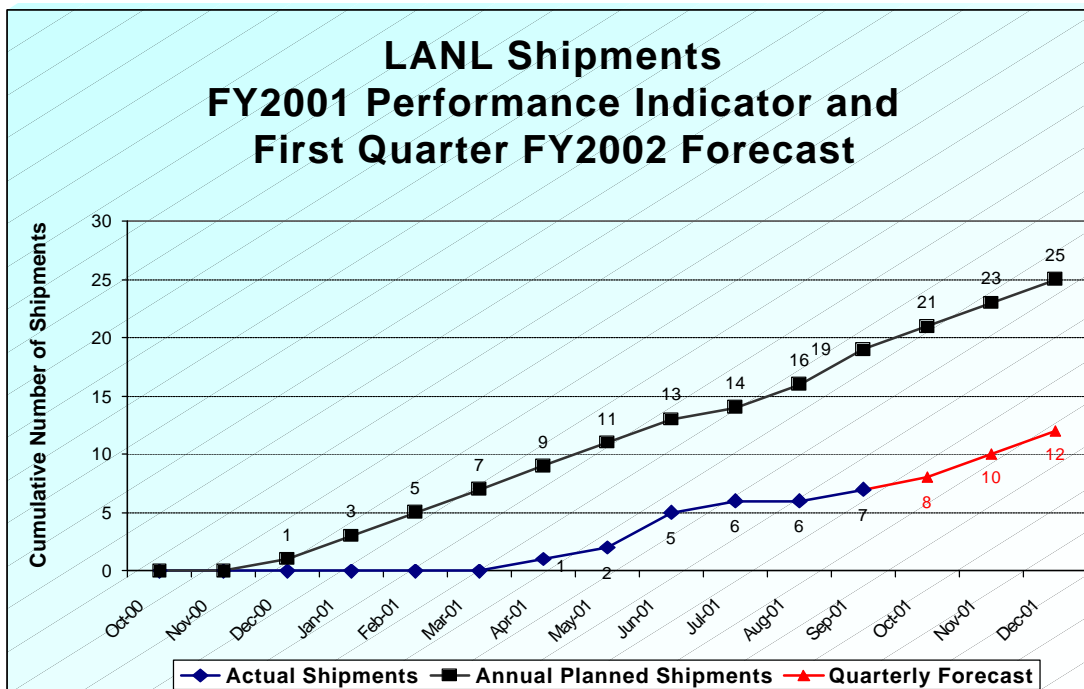
During FY2001, LANL realized 37 percent of their shipment goal and 45 percent of their TRU waste volume goal.

FY2001 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- C LANL Shipment FY2001
Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2001.
- C LANL Volume FY2001
Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2001.

Forecast values for the first quarter of FY2002 are shown in red on the figures.



Nevada Test Site

Background

The first shipment from the Nevada Test Site was anticipated to be in December of 2001; however, due to delays in the performance of the certification audit which is currently scheduled to be completed in March 2002, the earliest possible shipment date is during the third quarter of FY2002. There were no FY2001 Performance Indicators and no shipments are forecast for the first two quarters of FY2002.

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Rocky Flats Environmental Technology Site

Background

The first shipment from the Rocky Flats Environmental Technology Site (RFETS) was made on June 15, 1999 and was received at WIPP on June 17, 1999. Through September 30, 2001, a total of 216 shipments from RFETS representing 1,358.3 m³ have been received.

Fourth Quarter Performance

During the fourth quarter of FY2001, 60 shipments with a total volume of 345.2 m³ were made and disposed. The projection for this period was 60 shipments with a total volume of 397.2 m³.

Current Fiscal Year

As of September 30, 2001, during FY2001, RFETS has shipped 162 shipments consisting of 1,044.3 m³. In comparison to initial planning for FY2001, RFETS planned to make 175 shipments



consisting of 1,158.5 m³ during this same time period.

Performance Summary

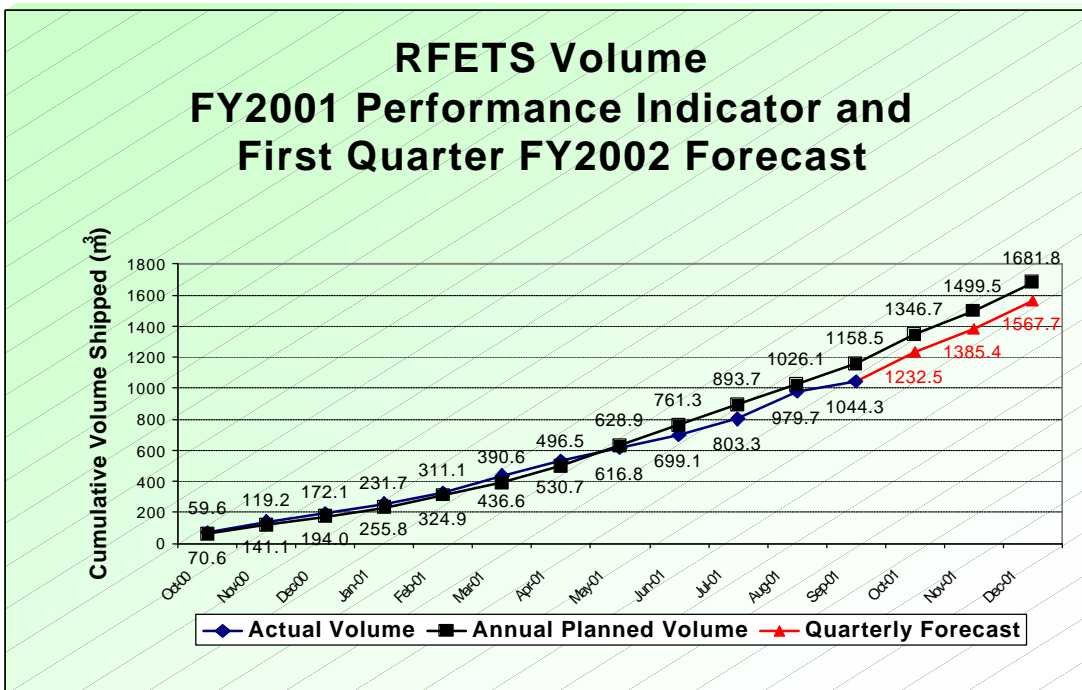
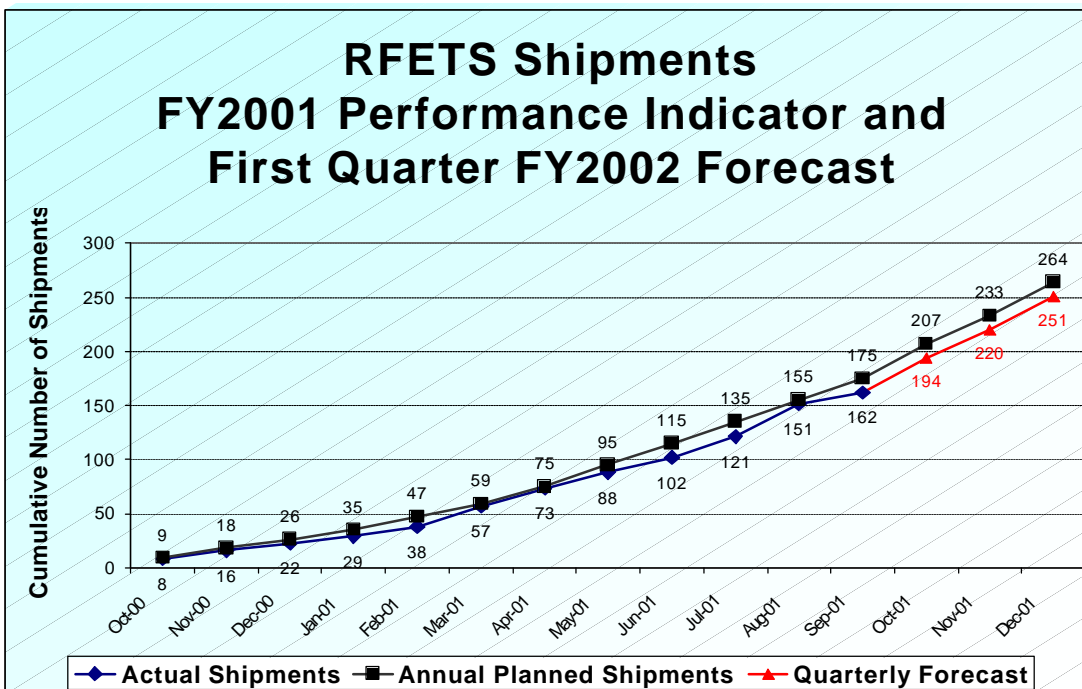
During FY2001, RFETS realized 93 percent of their shipment goal and 90 percent of their TRU waste volume goal.

FY2001 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

-  RFETS Shipment FY2001 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2001.
-  RFETS Volume FY2001 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2001.

Forecast values for the first quarter of FY2002 are shown in red on the figures.



Savannah River Site

Background

The first shipment from the Savannah River Site (SRS) was made on May 8, 2001 and received on May 10, 2001.

As of September 30, 2001, seven shipments of 61.7 m³ have been made and disposed.

To supplement shipments from SRS, mobile characterization systems have been deployed at SRS as part of the Central Characterization Project (SRS/CCP). The goal of this deployment is to increase shipments from SRS to accommodate the transfer of TRU waste from the Mound Laboratory in Ohio to SRS.

The transfer of the Mound Laboratory TRU waste is being accomplished in refurbished ATMX railcars (now referred to as OHOX railcars) under a

special exemption granted by the Department of Transportation. This transfer will allow the timely closure of the Mound Laboratory facility by the DOE in accordance with agreements with the state of Ohio. A related agreement with the state of South Carolina requires that the DOE transfer, by volume, twice as much TRU waste to the WIPP for disposal as received from the Mound Laboratory. Therefore, SRS/CCP is supporting both of these agreements. Though SRS/CCP was originally scheduled to begin shipping in June 2001, the SRS/CCP certification audit is not scheduled to be completed until November 2001. Approval by the New Mexico Environment Department to begin shipments is expected to be received no earlier than February 2002. Due to the distinction in the two efforts, SRS and SRS/CCP will be addressed separately in the following discussions.

Fourth Quarter Performance

During the fourth quarter of FY2001, SRS made six shipments with a volume of 52.9 m³. SRS had initially projected four shipments of 34.6 m³ during this quarter. SRS/CCP projected 20 shipments of 175.2 m³ during this quarter. However, since the certification audit for SRS/CCP had not been completed and approved, no shipments were made

by SRS/CCP. The combined projection for both SRS and SRS/CCP during this period was 24 shipments with a total volume of 209.8 m³.

Current Fiscal Year


As of September 30, 2001, during FY2001, SRS made seven shipments with a total volume of 61.7 m³. In comparison to initial projections for FY2001, SRS planned to make 9 shipments consisting of 77.5 m³. SRS/CCP had projected 25 shipments of 219.7 m³ during this quarter. However, since the certification audit for SRS/CCP had not been completed and approved, no shipments were made by SRS/CCP. The combined projection for both SRS and SRS/CCP during this period was 34 shipments with a total volume of 297.2 m³.


Performance Summary

During FY2001, the combined SRS and SRS/CCP effort realized 21 percent of their combined shipment goal and 21 percent of their combined TRU waste volume goal. Individually, SRS made 78 percent of their shipments and 80 percent of their volume goals, while SRS/CCP was unable to ship pending completion and approval of their certification audit.

FY2001 Key Performance Indicators

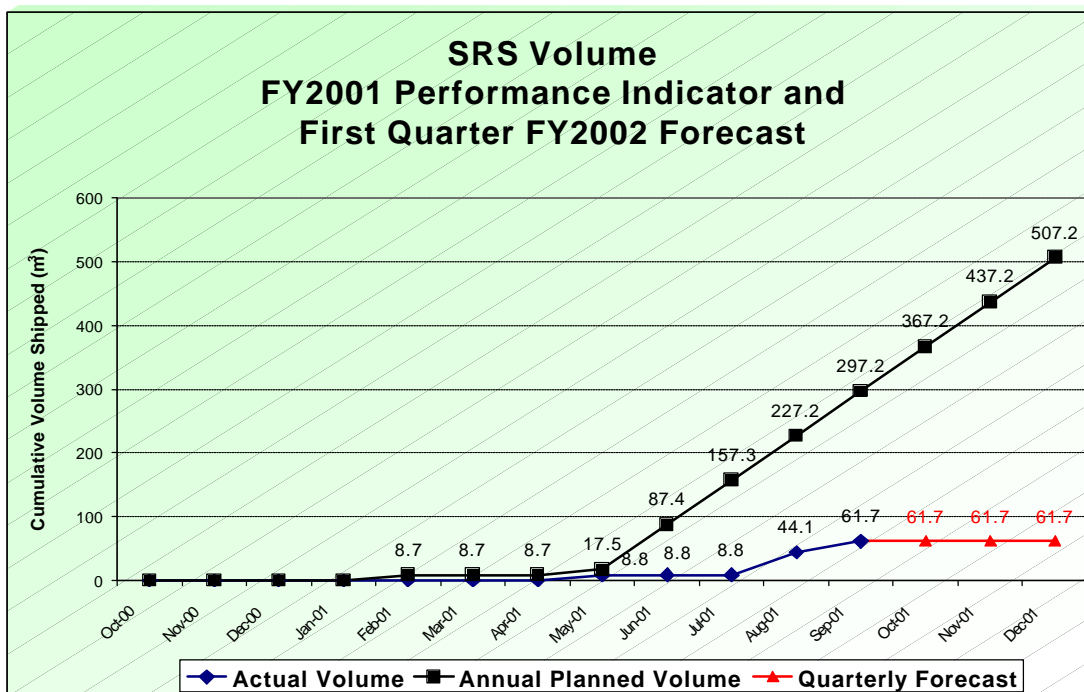
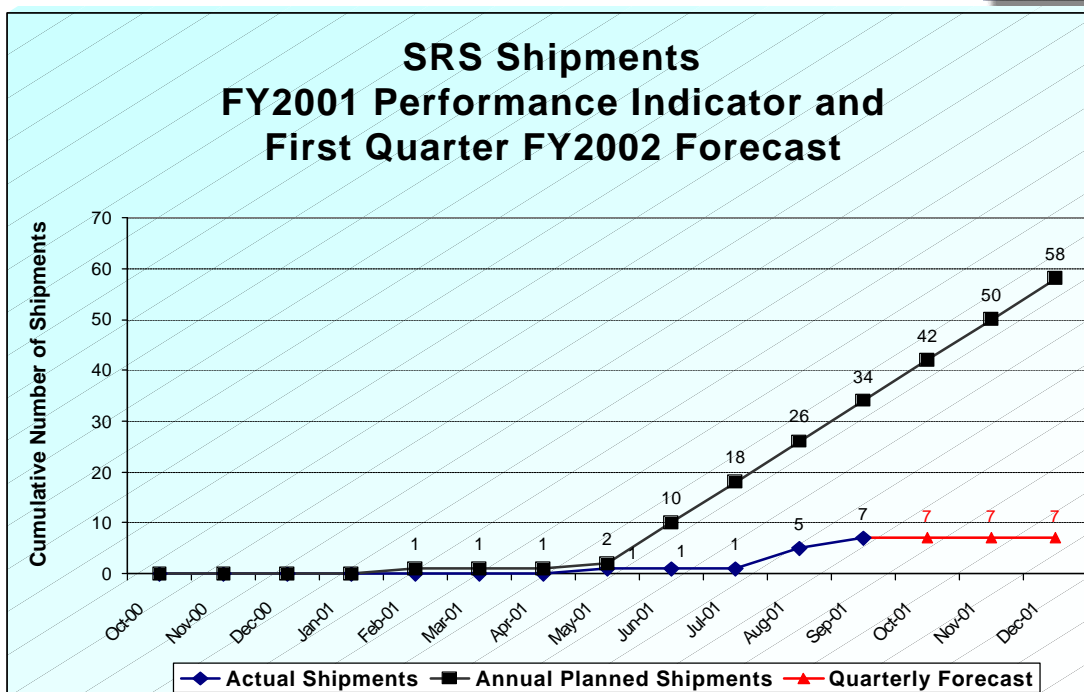
The Key Performance Indicators for the combined efforts of SRS and SRS/CCP are graphically shown in the following figures:

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SRS Shipment FY2001 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2001.
- 

SRS Volume FY2001 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2001.

Forecast values for the first quarter of FY2002 are shown in red on the figures. These forecast values represent the combined shipments and volumes projected by SRS/CCP.



Transportation

Background

The Performance Indicator for Transportation is the average annual downtime calculated as a monthly running average. From the carrier contract, "Downtime" is defined as:

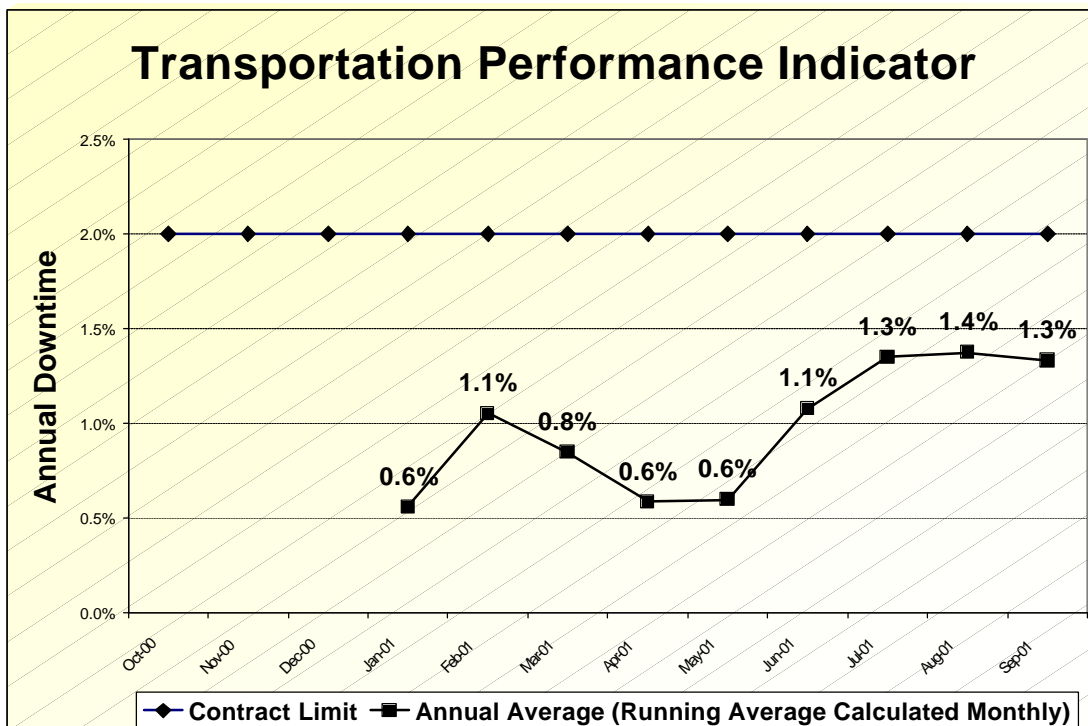
"The cumulative amount of time that a truck set is not available versus the time that it is in a safe operating mode, expressed as a percentage.

Scheduled preventative maintenance and generator site or WIPP site delays are not included in this calculation."

Delays caused by adverse weather conditions are not included in the downtime calculations.

For comparison purposes, the contract limit is 2.0 percent. During this quarter, few downtime hours were accrued. The largest number for any month during this quarter occurred in July (44.3 hours). The July total resulted from three occurrences; two repairs of cracks in trailers (43 hours) and replacement of a TRANSCOM antenna (1.3 hours).

The calculated downtime is shown graphically on the figure. Due to ongoing contract changes during the first three months of FY2001, data for October, November, and December are not presented.



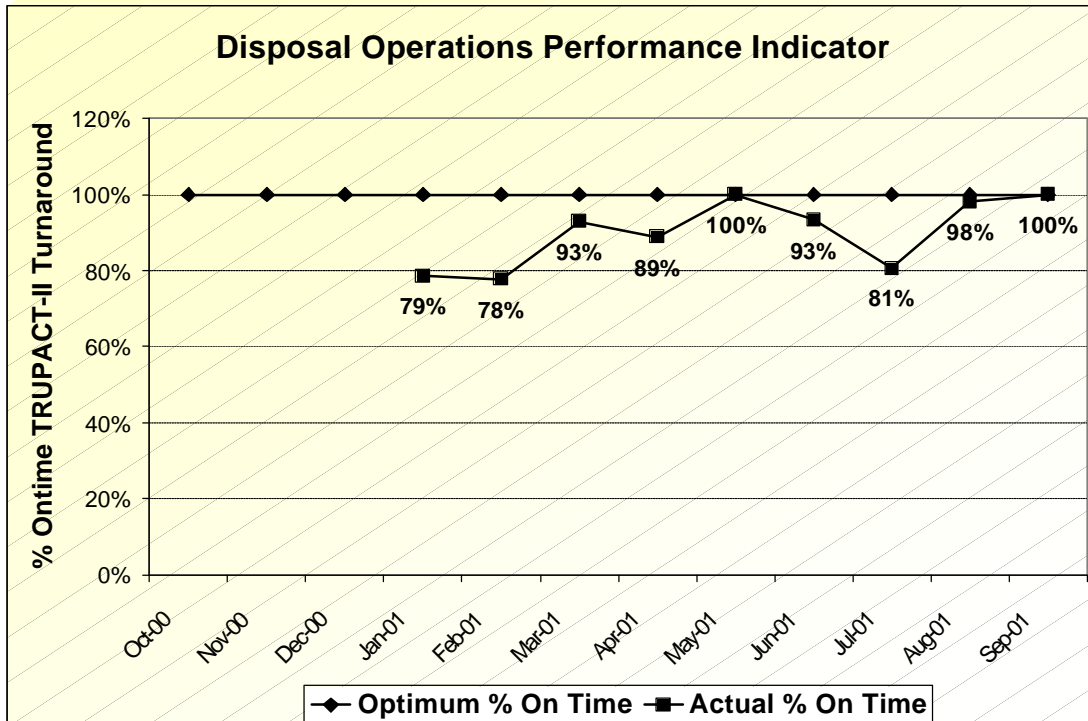
Disposal

Background

The Performance Indicator for Disposal Operations tracks on-time TRUPACT-II turnaround. This Performance Indicator shows whether disposal operations are able to turn around packaging to maintain the shipping schedule. Failure to meet a scheduled shipping date and time is counted against turnaround performance.

Due to the limited receipt schedule, the current turnaround times satisfy TRU waste site shipping needs.

The percentage of on-time TRUPACT-II turnaround is shown graphically on the figure. Due to ongoing contract changes during the first three months of FY2001, data for October, November, and December are not presented.



TRU Waste System

Background

Through September 30, 2001, a total of 394 shipments representing 2582.9 m³ of TRU waste have been received.

Fourth Quarter Performance

During the fourth quarter of FY2001, 111 shipments with a total volume of 670.5 m³ were made and disposed. The projection for this period was 145 shipments with a total volume of 1033.8 m³.

Current Fiscal Year

As of September 30, 2001, during FY2001, 304 shipments consisting of 1,938.4 m³ have been received. In comparison to initial planning for FY2001, 403 shipments consisting of 2,813.0 m³ were planned during this

same time period.

Performance Summary

During FY2001, the TRU Waste System realized 75 percent of its shipment goal and 69 percent of its TRU waste volume goal.

FY2001 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- C TRU Waste System Shipments
FY2001 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2001.
- C TRU Waste System Volume
FY2001 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2001.

Forecast values for the first quarter of FY2002 are shown in red on the figures.

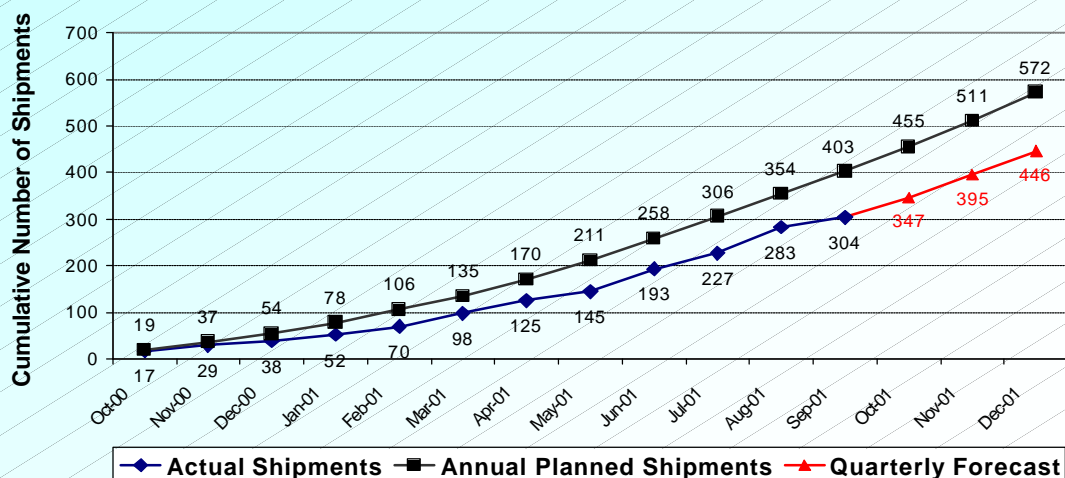
Analysis

During the current Fiscal Year, the cumulative number of shipments received as of September 30, 2001, was approximately 75 percent of the initially planned values expected to be shipped by this time based on the NTWMP. By volume, 69 percent of the planned volume of TRU waste was received. The less than anticipated values are due to: the lack of characterized and certified TRU waste inventory for shipment, limitations in the number of containers and TRUPACT-IIs per shipment due to container weight restrictions (e.g., two TRUPACTs per shipment instead of three due to weight restrictions), delays in the approval of site certification audit documentation, certification process errors and the need for the additional EPA inspection, site mechanical difficulties, weather delays, and the cessation of shipments due to terrorist activities.

The FY2002 projections show a significant increase in the number of shipments. Toward the end of FY2002, for example, INEEL is planning approximately 18 shipments per week and RFETS is planning approximately 15 shipments per week. In addition to projected shipments from other sites, the total projected shipment rate is between 35 and 40 shipments per week. Transportation resources and operational staffing levels do not currently support these shipping rate and volume increases.



TRU Waste System Shipments FY2001 Performance Indicator and First Quarter FY2002 Forecast



TRU Waste System Volume FY2001 Performance Indicator and First Quarter FY2002 Forecast



Technical and Programmatic Issues

Since the issuance of the National TRU Waste Management Plan, several of the areas identified under Section 2.3, *Integrated Program Strategy*, have continued to make progress toward their goals and end-state. The areas of progress in FY2001 were summarized in previous issues of the NTWMP Quarterly Supplements.

No areas of significant change have been noted since the last quarterly update.

Optimization

The National TRU Waste System Optimization Project was initiated by the Department of Energy's Carlsbad Field Office and chartered to transition the DOE TRU Waste System from the baseline to a state of optimized efficiency. The Optimization Plan is in development by the Carlsbad Field Office.

